CLAIMS

1. A method of damping the oscillating modes of an infinitely variable transmission with electric variator, comprising a heat engine and at least two electric machines, characterized in that the torque instruction (Uo) of the electric machines is the sum of a main instruction (Uo1) making it possible to attain setpoints for wheel torque (RTo) and torque of the heat engine (RWice), and of an instruction supplement (Um) intended to damp the oscillating modes brought about by the stiffnesses of the kinematic chain between the heat engine and the wheels.

2. The method of damping as claimed in claim 1, characterized in that the instruction supplement (Um) depends on the setpoint signals (RTo, RWice) and on estimates of physical quantities.

3. The method of damping as claimed in claim 1 or 2, characterized in that the instruction supplement (Um) is composed of a first element (Umc) which is a linear combination of the setpoint signals (RWice) and (RTo), and of a second element (Ume) which is a linear combination of physical quantities.

4. The method of damping as claimed in claim 3, characterized in that second element (Ume) integrates an estimate of the status of the heat engine (EWice).

5. The method of damping as claimed in claim 3 or 4, characterized in that the second element (Ume) integrates an estimate of the speed of the wheels (Ewwh).

6. The method of damping as claimed in claim 3, 4 or 5, characterized in that the second element (Ume)

integrates an estimate of status of the electric machines (EWe1, EWe2).

7. The method of damping as claimed in one of claims 3 to 6, characterized in that the second element (Ume) integrates an estimate of the engine torque exchanged between the engine and the box (ETi).

8. The method of damping as claimed in one of claims 3 to 7, characterized in that the second element (Ume) integrates an estimate of the torque at the wheels (ETo).

9. The method of damping as claimed in one of claims 3 to 8, characterized in that the second element (Ume) integrates an estimate of the frictional torque of the heat engine (ETdice).

10. The method of damping as claimed in one of claims 3 to 9, characterized in that the second element (Ume) integrates an estimate of the frictional torque at the wheel (ETres).

11. A device for supervising a transmission ensuring the regulation of the torque at the wheels (To) and of the thermal status (Wice) of an infinitely variable transmission with electric variator comprising a heat engine (1) and at least two electric machines (2, 3), characterized in that it exhibits a unit for damping the torsional modes (4), which calculates an instruction supplement (Um) intended to damp the oscillating modes brought about by the stiffnesses of the kinematic chain between the heat engine (1) and the wheels (6).

12. The supervising device as claimed in claim 11, characterized in that the damping unit (4) provides the instruction supplement (Um) added to the instruction

setpoint (Uo1) of the electric machines (2, 3) established by a unit for mechanical decoupling (7) between the heat engine (1) and the electric machines (2, 3).

13. The supervising device as claimed in claim 12, characterized in that the mechanical decoupling unit (7) receives two instructions (v1, v2) calculated in a unit for mechanical regulation (8) on the basis of setpoints and of estimates of the status of the heat engine and of the torque at the wheels (RWice, TWice, RTo, ETo).

14. The supervising device as claimed in claim 11, 12 or 13, characterized in that it comprises a mechanical determination unit (9) affording estimation of the engine status (EWice), and of the torque at the wheel (ETo).

15. The supervising device as claimed in one of claims 11 to 14, characterized in that the mechanical determination unit (9) establishes an estimation vector (Xf) for the oscillating modes, which is intended for the calculation of the instruction supplement (Um).

16. The supervising device as claimed in claim 15, characterized in that the estimation vector for the oscillating modes (Xf) is transmitted to the mechanical decoupling unit (7) and to the damping unit (4) for the torsional modes.

17. The supervising device as claimed in claim 14, 15 or 16, characterized in that the mechanical determination unit (9), the mechanical regulating unit (8), the mechanical decoupling unit (7), and the damping unit for the torsional modes (4), are grouped together in a mechanical supervising unit affording

regulation of the torque at the wheels (To) and status of the heat engine (Wice).